

# Livestock Update

*Beef - Horse - Poultry - Sheep - Swine*

**April 2016**

This LIVESTOCK UPDATE contains timely subject matter on beef cattle, horses, poultry, sheep, swine, and related junior work. Use this material as you see fit for local newspapers, radio programs, newsletters, and for the formulation of recommendations.

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## **Dates to Remember**

### **May 14, 2016**

Virginia Tech Livestock Judging Field Day- Alphin Stuart Arena, Virginia Tech Campus, Blacksburg VA- Registration is \$10 (children & adults) and includes lunch. Contact David Roper: [droper1@vt.edu](mailto:droper1@vt.edu).

### **July 18-20, 2016**

Virginia Tech Livestock Judging Camp- Virginia Tech Campus, Blacksburg VA- 3-day, 2-night event- Contact: Bain Wilson- [tbwilson@vt.edu](mailto:tbwilson@vt.edu) or David Roper- [droper1@vt.edu](mailto:droper1@vt.edu).

## **April Herd Management Advisor**

Scott P. Greiner & Mark A. McCann  
Extension Beef Specialists, Virginia Tech

As calving comes to a close in the region, it is a reminder that breeding is just around the corner. Whether for the entire breeding season or for cleanup purposes, it is imperative that bulls are able to settle cows. Nothing is more frustrating than spending the time and financial investment towards a promising herd sire, only to find out at a later date he was infertile or sub-fertile. Semen and/or physical problems can both be sources for reduced conception rates in a herd. Past performance is a poor predictor of future performance when it comes to bull fertility. While failure to have a calf crop due to bull issues is a major concern, the impact of a subfertile bull may be less obvious but equally detrimental as a result of fewer calves born early in the breeding season, and fewer cows settling to first estrus. Bulls with these potential issues can only be identified through a breeding soundness exam. In an effort to make BSE exams more economical, neighbors or county groups can facilitate bringing bulls to a central location for evaluation. This usually reduces the cost per bull because it is much more time efficient for the veterinarian performing the exams. Lastly, after your bull has passed a breeding soundness exam and is turned out with the cows, be sure to monitor his activity and libido during the breeding season. In summary, the cost and hassle of getting bulls examined is minimal compared to the financial impact of open cows or a prolonged calving season.

### **Spring Calving Herds (January-March)**

#### **General**

- Calving season winding down. Continue to observe late calving cows frequently.
- Tag, tattoo, record birth weight, calving ease score, teat/udder score and mothering ability of dam. Keep accurate records at birth to comply with age and source verification requirements.
- Monitor young calves for scours. Keep calving area and paddocks with pairs clean and well drained. Move pairs to new pastures or locations and reduce commingling of newborn calves with older calves to help reduce exposure and transfer of scours.

#### **Nutrition and Forages**

- Continue to offer a high magnesium mineral to prevent grass tetany. Monitor intake to insure cows are consuming the recommended amount. No other source of salt or minerals should be available.
- Evaluate growth of yearling heifers with goal of reaching 60-65% of mature weight by breeding. Depending on forage quality, supplementation maybe needed to meet weight gain target.
- Offer medium quality hay as cows are turned out on pasture and use hay disappearance as a barometer of dry matter needs of the herd.
- New forage growth is very digestible, high in protein and high in moisture content.

### **Herd Health**

- Consult with your veterinarian concerning pre-breeding vaccination schedule for cow herd, yearling heifers, and bulls. Plan early to allow 30-day vaccination window prior to breeding season.
- Monitor calf health closely, particularly for signs of scours and pneumonia, have treatment supplies on hand.
- Observe newborn calves to ensure colostrum intake first few hours of life. Provide selenium and vitamin A & D injections to newborn calves. Castrate commercial calves at birth.

### **Reproduction**

- Finalize plans and protocols for breeding season. Establish calendar to map timing of synchronization program to be used during breeding season. Have supplies and semen on hand.
- Breed heifers 2-4 weeks ahead of mature cows to allow longer post-partum interval prior to second breeding season.
- Schedule and conduct breeding soundness exams on herd sires, including annual vaccinations.
- Manage newly acquired herd sires properly to prepare them for the breeding season. Yearling bulls often lose 100+ pounds during their first breeding season. Adjust them to the feed and environment of their new home, and commingle bulls of same age/weight for a period of time prior to turnout. Ample exercise, in combination with a proper nutritional program, is essential to make them physically fit for the breeding season

### **Genetics**

- Finalize genetic goals and selection criteria for upcoming breeding season (both AI and natural service sires).
- Collect remaining yearling performance data (weight, height, scrotal, ultrasound) in seedstock herds.

### **Fall Calving Herds (September-November)**

#### **General**

- Schedule and conduct pregnancy diagnosis with veterinarian 45-60 days following breeding season.
- Evaluate potential options for marketing of calf crop, including timing of weaning to meet operational goals. Calculate break-evens on various marketing options and consider risk management strategies.
- Reimplant commercial calves.

### **Nutrition and Forages**

- Begin creep feeding or creep grazing calves if desired.
- Cows are entering latter portion of lactation, above average to good quality hay should meet nutritional requirements.
- Although pasture green-up is beginning, hay should be continued to be offered until consumption declines significantly.
- Reserve high quality hay and a pasture area for calves post-weaning.

### **Herd Health**

- Consult with veterinarian on vaccination protocol for calf crop. Design vaccination and weaning program around marketing goals and objectives.

### **Genetics**

- Collect weaning weights on calf crop at optimum time (AHIR age range 120-280 days), along with cow weights, hip heights and body condition scores (cow mature size data taken within 45 days of calf weaning measure).

# Virginia Tech Livestock Judging Field Day

Make plans to attend the 1st annual VT Livestock Judging Field Day on May 14, 2016 at the Alphin-Stuart Arena in Blacksburg VA. The day will include basic judging workshops followed by practice classes. Teams can evaluate classes together followed by an official critique.

Registration is \$10 (children & adults) and includes lunch. Teams may register as a group if desired. If you have specific questions please feel free to contact David Roper, droper1@vt.edu.

To register please detach the registration form below and return along with your registration fee.

## Tentative Schedule

**9:30-10:00 Registration**

**10:00 Species Workshops**

**12:00-1:00 Lunch**

**1:00-3:00 Practice Classes**

**3:00-4:00 Official Placings**

**4:00 Adjourn**

If you are a person with a disability and desire assistance or accommodation, please notify David Roper, 368 Litton Reaves at 540-231-4732/ TDD\*) during business hours of 8a.m. and 5 p.m.

## Registration Form

County/Chapter \_\_\_\_\_

Name(s) & Age(s) \_\_\_\_\_

\_\_\_\_\_

Coaches/Adults \_\_\_\_\_

Address ,City, State, Zip code \_\_\_\_\_

\_\_\_\_\_

Email address \_\_\_\_\_ Phone number \_\_\_\_\_

**Return forms to: David Roper 368 Litton Reaves Blacksburg VA 24061**

**Registration deadline: May 1, 2016**

By registering, the above listed person(s) acknowledge that media images may be used for promotional purposes.

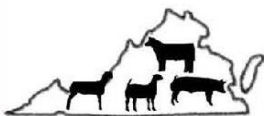


**Virginia  
Cooperative  
Extension**

Virginia Tech  
Virginia State University

# Virginia Tech Livestock Judging Camp

July 18-20, 2016  
VT Campus  
Blacksburg, VA



 VirginiaTech  
Invent the Future®

Join us for the 1st annual VT Livestock Judging Camp. A 3-day, 2-night event with detailed instruction in all species and reasons.

Campers will be housed on VT campus and the \$250 camp registration fee includes housing, meals, materials, t-shirt, and activity fees.

Camp is open to youth entering the 6th grade to High School Seniors.

To register fill out the attached form and return along with registration fee. Camp is limited to the first 60 youth registrations.

Two male & female chaperones are required. Please indicate your willingness to serve this role. Additional adults are welcome and will be charged \$175 registration fee (meals/lodging).

For more information contact:  
Bain Wilson: [tbwilson@vt.edu](mailto:tbwilson@vt.edu)  
David Roper: [droper1@vt.edu](mailto:droper1@vt.edu)



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## VT Livestock Judging Camp Registration Form

Name \_\_\_\_\_

Parent Chaperone \_\_\_\_ Yes \_\_\_\_ No

Youth Age \_\_\_\_ Adult \_\_\_\_ Gender \_\_\_\_

Address \_\_\_\_\_

City, ST, Zip \_\_\_\_\_

Email address \_\_\_\_\_

Phone # \_\_\_\_\_

Roommate preference \_\_\_\_\_

T-shirt size \_\_\_\_\_

If attending with team list members:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Deadline: June 15, 2016**

Return form and Payment to:

VT Livestock Judging Camp

C/O Bain Wilson

378 Litton Reaves (0306)

Blacksburg VA 24061

**If you are a person with a disability and desire assistance or accommodation, please notify Bain Wilson, 378 Litton Reaves at 540-231-5253/TDD\*) during business hours of 8a.m. and 5 p.m.**

**\*TDD number is (800) 828-1120.**

# **Tips for Getting Your Lamb & Goat Off to a Great Start**

*Dr. Scott Greiner & Dr. David Roper  
Extension Animal Scientists, Virginia Tech*

Each show season brings on a great deal of excitement and anticipation. Many hours are spent selecting project animals for the upcoming show season, and time and money is invested in an animal that will be exhibited at local and other fairs. Getting the newly purchased lamb or goat off to a good start is critical, as a health or other issues early on could persist for long periods of time, adversely impacting the animal's growth and potential. Here are a few tips to assist in getting your lamb or goat off to a good start.

## **Starting on Feed**

Lambs and goats which have a strong appetite and are eating well tend to be healthier. It is best if you can acquire some feed the animal is used to eating from the breeder when you purchase your lamb/goat (get enough for several days). Ask the breeder how much the lamb or goat has been eating, and use this as a guideline when you get the animal home. After having the lamb or goat for a few days, you can begin to switch them to your show feed. Do this gradually by replacing 1/4 to 1/3 of the feed at a time over the course of several days. Making the diet transition over several days will acclimate the lambs/goats to the new feed, and minimize the risk of them going off feed. This transition will also be easier if the lamb/goat is being fed twice a day on a regular schedule, and offered an amount of feed they will clean up in an hour or so (as opposed to a full-fed diet, where they get all they want). As a rule of thumb, this will be approximately 1-1.5% of their bodyweight in feed offered each feeding. Once the lamb/goat is transitioned to your feed, you can gradually increase the amount fed each feeding until they are receiving all they will clean up (usually 3-4% of their bodyweight daily). Lambs and goats should also be offered a medium quality hay daily (such as a grass hay), which help with rumen health and function (guideline of 0.5 lb/head/day). Finally, be sure to provide plenty of clean, fresh water. Rinse buckets and refill each feeding, and keep automatic water bowls clean.

## **Vaccinations**

While there are only a few vaccinations routinely administered to lambs and goats, they are very important for ensuring health. As with all health practices, be sure to follow label directions and use quality assurance guidelines.

**CD&T**– This vaccine protects against the disease commonly known as “overeating,” or *clostridium perfringens* types C & D. Your newly purchased lamb or goat may have been vaccinated upon purchase as this vaccine is commonly given around the time of weaning. Two vaccinations 2-3 weeks apart are generally recommended, so check with



the breeder on vaccination status. Even if the animal has already been vaccinated, a booster vaccine may be a good idea once you get them home.

Parasites– Most show lambs and goats have limited access to pasture, so internal parasites are of less concern. However, the animal may harbor parasites, so deworming with a product approved for sheep/goats is recommended.

Soremouth– Also called orf or contagious ecthyma, soremouth is a highly contagious virus which commonly infects the lips and mouth of the animal and therefore reduces their feed intake and therefore weight gain. Also, it is important to know that the soremouth virus is zoonotic, which means it can be contracted by humans. Soremouth generally appears during times of high stress and exposure to other animals carrying the virus, such as during show season. There is a vaccine for soremouth, which can be administered to prevent an untimely outbreak.

Others– Depending on your location and circumstances, other vaccinations may be warranted. Check with your veterinarian for their advice.

### **General Care & Management**

Most importantly, take time each day at feeding time to closely observe your new project animals. Noticing a potential health issue early is key to successful treatment and fast recovery. Classic symptoms in lambs and goats which are not feeling well include being off feed, lethargic or slow, droopy, breathing abnormally, or having diarrhea. The first step in diagnosis is obtaining a rectal temperature, so have a thermometer on hand. Contact your veterinarian or other expert for advice on diagnosis and treatment. Finally, refrain from working with your lamb or goat (halter breaking, etc.) until it has time to adjust to its new home, get started on feed, and established a routine. This may take a week or two.

## What Age and Weight Lamb or Goat Do I Need?

*Dr. David Roper & Dr. Scott Greiner  
Extension Animal Scientists, Virginia Tech*

Selecting a new livestock project animal is both an exciting and anxious time for families. Many questions arise during this process. What breed and gender do we want to show? What is our price range? What breeder do we visit? This list goes on and on, however, one of the most important questions is, “How big and what age animal do I need?” Using some basic guidelines related to date of the target show and animal performance will help provide guidance. Starting the project with an animal of proper size makes management of the animal much simpler. Animals which are too small may have difficulty reaching an ideal market weight in a timely fashion, whereas animals which are too heavy at the outset may be over finished or overweight at the targeted time. Of course, animal growth over the project period influences this as well.

Typically, a show lamb will gain 0.40 pounds per day (ADG), while a show goat will gain 0.25 pound per day during the project period. The table below provides some examples of the calculation process for a lamb project. The same math can be applied for a goat project, although ADG will likely be lower.

Days Until Show	Expected Average Daily Gain (ADG)	Total Expected Gain
150 days X	0.40 lb/day =	60 pounds
130 days X	0.40 lb/day =	52 pounds

Desired Show Weight	Total Expected Gain	Purchase Weight
120 pounds -	60 pounds =	60 pounds
140 pounds -	52 pounds =	88 pounds

It is also important to keep age of the animal in mind when selecting a project. Often, weights are not available when selecting an animal. As a rule of thumb, lambs and

goats born prior to mid-March tend to work best for late September or October shows as is the case for the State Fair of Virginia. That provides for a 6-7 month old animal on show day. Therefore, if your target show is during a different time of year you can apply the same concept. Remember that younger and smaller lambs and goats will need to have a higher ADG to reach the same show weight as heavier lambs or goats when starting the project. However, if your desire is to show a lightweight animal then starting with a young/light project will be advantageous. Remember that many things will impact ADG including health, appetite, genetics, and a number of other factors. However, using this simple math will help match a starting weight and age with your target endpoint.

# **Parasite Management Strategies for Sheep**

*Scott P. Greiner*

*Extension Animal Scientist, Virginia Tech*

For sheep producers, along with the arrival of spring and much anticipated return to pasture is the realization that parasite season is also upon us. The most significant health issue faced by sheep producers is internal parasites. Throughout the U.S., and especially in the mid Atlantic and southern states, the most important member of this family is *Haemonchus contortus* commonly called the barber pole worm. The barber pole worm is a bloodsucking parasite found in the stomach. Infected sheep become anemic, leading to poor performance and frequently death. Bottle jaw is a classic symptom of *H. contortus* infection; along with loss of body condition, weakness, and rough appearance.

A significant challenge to current internal parasite control strategies is the resistance of *H. contortus* to many of the dewormer drugs. Resistance has been brought about by several factors, including improper use of dewormers. Dependence on dewormers as the primary mechanism to control parasites for many years has resulted in prolonged exposure of the parasites to the drugs, and over time the parasites have developed resistance. Overuse and improper use of dewormers also contributes to development of resistance, and over time a high proportion of the drug-susceptible parasites have been killed, leaving a population of parasites which are highly resistant. This extent of resistance can vary substantially from farm to farm. Given the prevalence of drug resistant worms and lack of new products entering the marketplace, parasite control programs must utilize alternative strategies in combination with dewormers to control parasites. These strategies are important even for flocks which do not have a resistance problem, as they will slow the development of resistance and prolong effective use of dewormers.

The following outlines several factors regarding an integrated approach to parasite control:

## **Pasture Management and Grazing Strategies**

The life cycle of the worm involves the shedding of eggs in the feces of the sheep. Given the right environmental conditions (warm and humid), these eggs hatch and the larvae migrate up the blades of forage and are then ingested by grazing sheep. The majority of the larvae are found in the first 2 inches of forage. Consequently, grazing management strategies which minimize overgrazing and leave a residual amount of forage (>2 in.) are conducive to reducing parasitism. Stocking rates are closely related to these factors, and flocks which have lower stocking densities tend to have lower parasite loads. This is a result of less grazing pressure, and the dilution effect of having fecal eggs and resulting larvae spread out over a larger land area.

The use of clean pastures has long been a strategy to control parasites. A clean pasture is one that is not contaminated with parasite larvae. This may be a pasture that has been cut for hay, grazed by another species (cattle or horses), or rested. Research

indicates that the rest period needs to be at least 3 months, and 6-12 months in some cases. Most farms lack the acreage to rest pastures this amount of time.

Multi-species grazing of sheep with cattle or horses is an additional strategy that can be implemented. Since the parasites that affect these species are different, co-grazing helps to reduce the population of infective larvae available to the sheep since some of the population is consumed by cattle (and therefore do not propagate).

### **Proper Use of Dewormers**

Dewormer products available for sheep fall into three drug classes:

- Benzimidazoles- includes albendazole (Valbazen) and fenbendazole (Safeguard)
- Macrolides- includes ivermectin (Ivomec) and moxydectin (Cydectin)
- Nicotinics- includes levamisole (Prohibit)

Resistance has been documented in all of the above drug classes, and commonly reported for the white dewormers (albendazole, fenbendazole) and ivermectin. The only definitive way to determine if a flock has resistance is to conduct a fecal egg count reduction test, which will objectively determine the effectiveness of a particular dewormer in the flock. This test can be performed with the assistance of a veterinarian or extension agent.

Ideally, dewormers should be rotated on a yearly basis, using a product from different drug class each grazing season. This is becoming more challenging with the development of resistance.

When administering dewormers, proper estimation of animal weight is necessary to provide an accurate dose. Always dose for the heaviest animal in the group. Deworming sheep on an empty stomach (withhold feed or pasture 24 hours prior to treatment- do not withhold water) may assist in the effectiveness of the deworming.

### **Strategic and Selective Deworming**

To effectively control parasites we have evolved our approach from deworming all animals at regular intervals, to a strategic approach in which we deworm less frequently and concentrate on high-risk animals. The most recent approach includes strategic deworming, which involves evaluating and treating individual animals based on their parasite load or level of infection.

As compared to ewes, lambs are at much higher risk of parasitism as a result of less immunity. The previously mentioned grazing strategies are important particularly with grazing ewes nursing lambs. Stocking rate and forage management in conjunction with well-timed dewormings should be utilized for this production group. Lambs will exhibit the effects of parasitism before ewes, so monitoring of grazing lambs should guide treatment protocols. Weaning and grazing lambs separate from mature sheep assists in parasite management for both groups. When separated, lambs should graze “cleaner” pastures with more forage availability.

It has been demonstrated that within a flock, there is a relatively small percentage of the sheep which shed the majority of the worm eggs. Methods which identify these problem animals and eliminate them from the flock assist in controlling parasites and reducing resistance. Animals which are chronically wormy are good candidates to cull.

An important step in controlling the development of resistance is to reduce the number of deworming treatments. By reducing the number of treatments, the goal is to reduce the number of worms that are exposed to a drug and thereby become resistant. The FAMACHA system has been developed for this purpose, and utilizes color of the eye membranes to assess anemia (related to parasite load), and allows for treatment decisions to be made on an individual animal basis. To implement FAMACHA, producers need to attend an educational session to obtain training and the eye color chart used as the decision-making tool. Contact your local extension agent for details regarding training.

FAMACHA also provides a mechanism for identifying and selecting both parasite resistant and highly susceptible sheep. Since each animal is scored individually, keeping records over time will assist producers in identifying the genetics in their flock which are problematic and/or most adaptable to their parasite management program.

### **Summary**

Managing parasites is essential to sheep enterprise profitability. A number of strategies are available which reduce the dependence on dewormers, and implementation of these strategies is necessary to address drug resistance which has become widespread in recent years. Each flock will be unique in the techniques which equate to a successful parasite management program. Forage and grazing management and prudent use of dewormers need to be matched to the production system and resources of an individual farm. Stocking rate, forage quantity and quality, grazing practices, and flock genetics are all contributing factors which will impact a planned parasite control management program.

## **Management of the Flock for Spring Breeding Success**

*Scott P. Greiner*

*Extension Animal Scientist, Virginia Tech*

Interest among sheep producers to have fall-born lambs is on the rise. Fall-born lambs typically are well-suited to take advantage of strong early-spring market prices. Additionally, there is strong demand for fall-born lambs to meet the needs of youth which have spring market lamb shows. Favorable weather and forage production associated with fall lambing compliment these marketing opportunities. However, with sheep being very seasonal in their reproduction, fall-lambing is limited by the ability to get ewes pregnant in the spring. There are several options producers have to enhance the opportunity for spring breeding to be successful.

Most successful spring breeding programs utilize genetics that have out-of-season capability. Breeds noted for this ability include Dorset, Polypay, Rambouillet, Finnsheep, potentially hair breeds (Katahdin, St. Croix, Blackbelly), and crosses of these breeds. Considerable variation exists within these breed for fall lambing potential, and selection for this trait needs to be a priority for operations that utilize an extended breeding season.

Genetics, coupled with proper nutrition and management are key components for spring breeding success. One such management practice- the “ram effect” is commonly utilized to induce ovulation in anestrus ewes that have been previously isolated from rams. The ram effect is an effective, inexpensive, practical means to increase percentage of ewes lambing out of season. Utilization of the ram effect requires ewe isolation from rams for a minimum of one month, and preferably longer. Isolation from rams needs to be complete by avoiding fence-line contact and any association with rams (sight, smell, touch). Upon joining rams with ewes that have been previously isolated, ewes will ovulate with 7 days after introduction of the rams. However, less than 20% of the ewes will be in heat during these first 7 days (silent heat). Active estrus (heat) and ovulation will occur 17 to 24 days after introduction of rams, resulting in pregnancy. Breed of ewe is an important factor in response to the ram effect. Ewes will be more responsive to the ram effect as they reach the end of anestrus (are ready to start cycling), and therefore ewes with the genetic propensity to breed out-of-season respond most favorably to the ram effect in the spring. Vasectomized teaser rams are frequently used during the first two weeks since there is a delay in estrus with the ram effect. Fertile rams need to be placed with the ewes after 14 days. Aggressive rams (both fertile rams and teasers) with high libido are most effective in eliciting a response in the ewe. It is important that rams receive a breeding soundness exam prior to spring breeding to ensure fertility.

Hormonal control of the estrous cycle has been used for several years to induce ovulation in ewes. Until recently, however, protocols and products approved specifically for sheep have been a limiting factor for wide-spread application. The sheep EAZI-BREED CIDR is approved for use in the U.S. and provides sheep producers an additional tool for spring breeding. The CIDR is a vaginal insert which releases

progesterone, and is labeled to induce estrus in ewes during seasonal anestrus. The CIDR is a simple, easy-to-use device that is inserted into the ewe for five days, with ram introduction to immediately follow. Similar to the use of the ram effect, it is important that ewes not be exposed to rams prior to synchronization. Additionally, since a large number of ewes will exhibit estrus simultaneously through, the ewe:ram ratio should not exceed 18:1 and may need to be lower depending on the age and capacity of the ram. Consequently, pre-planning is warranted when using CIDRs to insert and remove the devices on staggered days if a large number of ewes are synchronized.

On-farm research with CIDRs has been conducted at Virginia Tech utilizing a Dorset flock with a history of fall lambing. Over the past three years, pregnancy rate in ewes receiving a CIDR for 5 or 7 days in early May has ranged from 59-74%. All ewes were mature ewes (no ewe lambs), and had lambed in January-February (lambs weaned at 60 days of age, and ewes synchronized 30-45 days later). A control group of ewes received no CIDR and had lambed the previous fall. These ewes were exposed to the same rams at the same time as the synchronized ewes. Pregnancy rate over last three May breeding seasons in these ewes ranged from 44-58% utilizing the ram effect only. Comparing lambing rates in fall-lambing vs. spring-lambing ewes in this system has revealed an advantage in number of lambs born to spring-lambing ewes (1.78 vs. 1.34 lambs born/ewe for spring vs. fall). In addition to the cost associated with synchronization (CIDR and labor costs), the fewer number of lambs born, weaned, and therefore marketed needs to be considered in a fall-lambing budget. Consequently, significant premiums in lamb value and/or reductions in production costs need be realized in fall-born lambs to offset the differences in pregnancy rates and number of lambs born compared to spring lambing systems.

Collectively, these on-farm experiences underline several key points when synchronizing ewes for spring breeding:

- Whiteface/Dorset ewes will probably respond more favorably to spring synchronization than blackface ewes
- Ram fertility and libido is critical, conduct BSE on rams and observe closely; use of a marking harness will increase accuracy of monitoring
- Ewe:ram ratio should not exceed 18:1 and may need to be lower depending on the age and capacity of the ram. Single ram flocks should stagger CIDR removal (every 2-3d) to avoid overworking the ram
- Ewes should be in good body condition, weaned and recovered from the weaning process
- Ewes should not be exposed to rams prior to synchronization
- Minimize stress on ewes during and immediately following breeding season (heat, transportation)
- Lambing rates will be significantly lower for fall vs. winter/spring lambing ewes

Finally, similar to fall breeding, basic management practices will enhance the success of spring breeding. Ewes need to be in good body condition, and need to be weaned and



recovered from the weaning process prior to spring breeding. A solid nutrition and mineral program, along with flock health program are also key.